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DR-352
September 1968
AD

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METEOROLOGICAL DATA REPORT

NIKE-HYDAC STV SR-071
(12 August 1968)

BY

GORDON L. DUNAWAY

ATMOSPHERIC SCIENCE RESEARCH OFFICE
WHITE SANDS MISSILE RANGE, NEW MEXICO

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DA Task 1T665702D127-02

ATMOSPHERIC SCIENCE RESEARCH OFFICE
WHITE SANDS MISSILE RANGE, NEW MEXICO

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ABSTRACT

Meteorological data gathered for the launching of Nike-Hydac STV (SR-071), are presented for the Space and Missile Systems Organization and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.

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INTRODUCTION

Nike-Hydac STV (SR-071), was launched from Launch Complex 33, L-314, White Sands Missile Range (WSMR), New Mexico, at 0614 hours MDT, 12 August 1968.

Meteorological data used in conjunction with theoretical calculations to predict rocket impact were collected by the Meteorological Support Technical Area, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The Ballistics Meteorologists for this firing were Gordon L. Dunaway and John M. Sharpe.

DISCUSSION

Wind data for the first 216 feet above the surface were obtained from a system composed of five Aerovanes mounted on a 200-foot tower and cabled to two component wind indicators for each level.

From 216 to 4,000 feet above the surface, wind data were obtained from T-9 tracked balloon ascents.

Temperature, pressure, and humidity data, along with upper wind data from 4,000 to 100,000 feet above the surface, were obtained from standard rawinsonde observations.

Mean wind component values in each ballistic zone were determined from vertical cross sections by the equal-area method.

Theoretical rocket performance values and ballistic factors as a function of altitude were provided by ASL and are the basis for data appearing in Table I.

PAYLOAD		218	Pounds
CORIOLIS DISPLACEMENT	WEST	4.9	Miles
SECOND-STAGE IGNITION	TIME	20.0	Seconds
	ALTITUDE	35,760	Feet MSL
PEAK	TIME	236	Seconds
	ALTITUDE	716,000	Feet MSL
UNIT WIND EFFECT	HEAD	2.16	Miles/MPH
	CROSS	2.24	Miles/MPH
	TAIL	2.17	Miles/MPH
TOWER TILT EFFECT		14.53	Miles/Degree

TABLE I. THEORETICAL ROCKET PERFORMANCE VALUES
NIKE-HYDAC STV (SR-071)

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
15- 60	.126
60- 108	.084
108- 148	.053
148- 184	.041
184- 216	.026
216- 300	.062
300- 400	.058
400- 600	.072
600- 800	.058
800-1000	.039

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
1000- 1400	.063
1400- 2000	.066
2000- 2500	.035
2500- 3000	.028
3000- 3500	.014
3500- 4000	.005
4000- 4160	-.003
4160- 9000	-.014
9000-15000	-.017
15000-21000	-.016

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
21000-26000	-.013
26000-31767	-.016
31767-36000	.129
36000-41000	.057
41000-46000	.026
46000-51000	.015
51000-56000	.010
56000-61000	.006
61000-66000	.004
66000-69330	.002

TABLE II. BALLISTIC FACTORS
NIKE-HYDAC STV (SR-071)

AERO- VANE NO. *	MEAN WIND COMPONENTS IN MILES PER HOUR									
	1 0355 MDT		2 0415 MDT		3 0445 MDT		4 0500 MDT		5 0515 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	0.0	0.0	8.0S	1.0W	6.0S	3.0E	1.0S	0.0	1.0S	1.0W
2	2.0S	2.0W	10.0	3.0	9.0	3.0	4.0	0.0	3.5	3.0
3	4.0	3.0	11.0	3.0	9.0	4.0	4.0	1.0E	5.0	3.0
4	6.0	3.0	11.0	3.5	11.0	4.0	7.0	1.0	6.5	3.0
5	7.0	2.0	11.0	3.0	11.0	5.0	8.0	1.0	7.0	3.0

AERO- VANE NO. *	MEAN WIND COMPONENTS IN MILES PER HOUR									
	6 0525 MDT		7 0535 NDT		8 0545 MDT		9 0555 NDT		10 0614 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	2.0S	1.0W	0.0	0.0	0.0	0.0	3.0S	4.0E	7.0S	4.0E
2	2.0	1.0	2.0S	1.0E	2.0S	2.0E	7.0	4.0	8.0	3.0
3	3.5	0.0	3.0	1.0	3.0	2.0	7.0	5.0	8.0	2.0
4	5.0	0.0	7.0	0.0	4.0	2.0	8.0	6.0	9.0	3.0
5	6.0	0.0	8.0	0.0	4.0	1.0	7.0	5.0	10.0	3.0

TABLE III. ANEMOMETER WIND SPEED AND DIRECTION
NIKE-HYDAC STV (SR-071)

* Heights corresponding to Aerovane Numbers: 1 = 35 Feet 3 = 128 Feet 5 = 200 Feet
2 = 88 Feet 4 = 168 Feet

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN MILES PER HOUR									
	1		2		3		4		5	
	0355 MDT		0415 MDT		0445 MDT		0500 MDT		0515 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
216- 300	7.5S	2.5W	11.0S	3.0W	11.0S	4.0E	8.0S	0.5E	8.0S	3.0W
300- 400	8.0	4.0	11.5	5.0	11.5	2.0	8.5	1.5W	8.5	4.0
400- 600	8.0	5.0	12.0	4.0	12.0	1.0W	9.0	3.0	9.0	6.0
600- 800	8.5	2.0	13.5	1.0	12.5	3.5	9.5	5.5	14.0	4.5
800-1000	10.0	1.0	13.5	1.0	13.0	4.0	8.0	7.0	12.5	3.5
1000-1400	11.0	3.0	15.0	1.0	8.0	5.5	6.0	5.5	6.5	4.5
1400-2000	8.0	5.0	11.5	4.0	2.0	5.0	2.0	4.5	1.5	3.5
2000-2500	4.5	6.0	3.5	7.0	0.5	3.0	1.0	3.0	1.0N	2.5
2500-3000	2.0	6.5	1.5	5.0	2.0	2.0	3.5	2.5	4.0S	2.0
3000-3500	1.5	11.0	3.0	9.0	4.0	5.0	7.0	4.0	6.0	5.0
3500-4000	2.0	15.0	3.5	12.0	2.0	10.0	3.0	10.5	2.5	8.5

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA
NIKE-HYDAC STV (5R-071)

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN MILES PER HOUR									
	6		7		8		9		10	
	0525 MDT		0535 MDT		0545 MDT		0555 MDT		0614 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
216- 300	6.5S	0.5W	8.0S	0.5E	4.5E	1.0E	7.5S	4.5E	8.5E	2.5E
300- 400	7.0	1.0	8.0	0.5W	6.0	1.5	8.5	4.0	9.5	0.5W
400- 600	9.0	4.5	8.0	2.5	7.0	0.5	11.5	2.5	10.5	4.5
600- 800	13.0	4.5	10.5	3.5	8.0	1.5W	13.0	0.0	13.0	5.0
800-1000	14.5	4.0	14.5	3.5	13.0	1.5	13.0	1.5W	14.0	4.5
1000-1400	9.0	2.5	11.0	1.5	10.5	1.0	12.0	0.5	12.0	4.0
1400-2000	5.5	3.0	5.5	1.5	3.5	1.0E	5.0	1.0	3.0	2.0
2000-2500	4.0	1.5	0.5	1.0	3.0	0.0	4.0	0.5	1.5N	0.0
2500-3000	3.5	0.5E	3.0	0.0	4.0	1.5W	4.0	3.0	0.5	4.5W
3000-3500	5.0	2.0W	0.0	6.0W	1.5N	7.5	3.0N	7.0	1.5	6.5
3500-4000	2.0	8.0	1.0N	10.0	3.0	11.5	3.5	11.0	2.5	11.0

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA (CONT.)
NIKE-HYDAC STV (SR-071)

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN KNOTS					
	1		2			
	0245 MDT		0615 MDT			
	N-S	E-W	N-S	E-W	N-S	E-W
4000-4160	2.5N	13.0W	1.5N	8.0W		
4160-9000	3.0	16.0	2.5	13.0		
9000-15000	0.0	20.0	3.5	18.5		
15000-21000	3.0S	16.0	2.5	13.0		
21000-26000	3.0	8.5	8.5S	10.0		
26000-31770	10.5	4.0	6.0	7.0		
31770-36000	13.0	0.5	11.5	4.0		
36000-41000	11.0	6.5E	15.5	13.0		
41000-46000	11.5	14.0W	0.0	13.0		
46000-51000	0.0	10.0	2.5N	13.0		
51000-61000	3.0N	1.0E	9.5	3.5E		
61000-66000	0.0	9.0	1.5	8.0		
66000-69330	0.0	17.0	7.5	19.5		

TABLE V. RAWINSONDE-MEASURED WIND DATA
NIKE-HYDAC STV (SR-071)

STATION ALTITUDE 3989.0 FEET MSL
12 AUG. 68
ASCENSION NO. 640

SIGNIFICANT LEVEL DATA
0073003902
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

TABLE VI

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT (SEE *)
		AIR DEGREES	DEWPOINT CENTIGRADE	
880.2	3989.0	19.7	17.8	88.0
870.0	4320.2	20.0	16.4	79.0
855.0	4814.8	21.0	11.7	55.0
801.0	6667.4	20.0	7.4	44.0
688.0	10900.1	10.0	0.6	52.0
564.0	16209.4	-2.9	-3.5	96.0
556.0	16581.8	-3.6	-4.0	97.0
528.0	17920.8	-5.9	-7.6	88.0
522.0	18215.6	-5.9	-10.5	70.0
495.0	19580.8	-7.5	-13.0	65.0
477.0	20525.3	-10.2	-14.0	74.0
471.0	20846.3	-10.2	-19.0	49.0
452.0	21885.5	-12.6	-21.7	47.0
438.0	22674.7	-13.5	-17.1	75.0
400.0	24926.6	-18.3	-21.3	78.0
330.0	29567.0	-27.7	-33.4	59.0
264.0	34707.4	-40.8	-46.7	54.0
252.0	35744.0	-43.5	-49.9	50.0
187.0	42106.5	-60.6	0.	-0. **
165.0	44660.9	-62.0	0.	-0. **
156.0	45792.9	-65.4	0.	-0. **
128.0	49720.9	-69.6	0.	-0. **
107.0	53239.7	-70.1	0.	-0. **
105.0	53608.6	-71.5	0.	-0. **
102.0	54173.7	-71.3	0.	-0. **
100.0	54562.6	-68.5	0.	-0. **
87.0	57348.2	-63.8	0.	-0. **
61.0	64549.5	-62.8	0.	-0. **
58.0	65585.6	-58.7	0.	-0. **
33.0	77417.8	-53.8	0.	-0. **

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

* RELATIVE HUMIDITY DOUTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL
 12 AUG. 68 0245 HRS MDT
 ASCENSION NO. 640

SIGNIFICANT LEVEL DATA
 0073003902
 WHITE SANDS SITE

WSTM SITE COORDINATES
 E 488,580 FEET
 N 185,045 FEET

TABLE VI (Cont)

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT (SEE *)
	AIR DEGREES	DEWPOINT CENTIGRADE	
28.0 80954.1	-48.0	0.	-0. **
24.0 84299.1	-50.3	0.	-0. **
19.0 89398.5	-45.5	0.	-0. **
10.0 103686.4	-41.6	0.	-0. **
8.0 108765.5	-35.8	0.	-0. **

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL
 12 AUG. 68
 ASCENSION NO. 640

UPPER AIR DATA
 0073003902
 WHITE SANDS SITE

WSTM SITE COORDINATES
 E 488,580 FEET
 N 105,045 FEET

TABLE VII

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT (SEE *)	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
3989.0	880.2	19.7	17.8	89.0	1038.1	669.2	0.	0.	0.	1.000321
4000.0	879.9	19.7	17.7	87.7	1037.7	669.2	359.4	359.4	0.0	1.000320
4500.0	864.5	20.4	14.9	70.3	1018.7	669.6	331.9	331.9	1.9	1.000301
5000.0	849.4	20.9	11.3	53.9	1000.5	669.7	304.5	304.5	3.8	1.000281
5500.0	834.6	20.6	10.2	50.9	984.3	669.3	277.0	277.0	5.6	1.000274
6000.0	820.0	20.4	9.0	48.0	968.3	668.9	254.0	254.0	7.5	1.000266
6500.0	805.7	20.1	7.9	45.0	952.6	668.4	267.2	267.2	9.4	1.000259
7000.0	791.5	19.2	6.9	44.6	938.8	667.4	274.5	274.5	11.3	1.000253
7500.0	777.4	18.0	6.2	45.6	925.9	666.0	277.2	277.2	13.2	1.000248
8000.0	763.6	16.9	5.4	46.5	913.3	664.6	277.2	277.2	14.3	1.000244
8500.0	750.0	15.7	4.6	47.5	900.9	663.1	276.9	276.9	15.3	1.000239
9000.0	736.6	14.5	3.8	48.4	888.4	661.7	275.9	275.9	16.0	1.000235
9500.0	723.5	13.3	3.0	49.4	876.5	660.3	276.6	276.6	16.6	1.000230
10000.0	710.6	12.1	2.1	50.3	864.6	658.9	277.7	277.7	16.9	1.000226
10500.0	698.0	10.9	1.3	51.2	852.9	657.5	279.4	279.4	16.8	1.000222
11000.0	685.4	9.8	0.6	52.8	841.2	656.1	281.4	281.4	16.7	1.000218
11500.0	672.7	8.5	0.5	57.0	829.1	654.7	283.2	283.2	16.7	1.000215
12000.0	660.2	7.3	0.3	61.1	817.2	653.3	283.0	283.0	16.6	1.000212
12500.0	648.0	6.1	0.1	65.3	805.6	651.9	282.6	282.6	16.6	1.000209
13000.0	636.0	4.9	-0.2	69.4	794.1	650.4	282.1	282.1	16.8	1.000206
13500.0	624.2	3.7	-0.6	73.5	782.8	649.0	282.2	282.2	17.3	1.000203
14000.0	612.6	2.5	-1.0	77.7	771.7	647.6	282.5	282.5	17.9	1.000200
14500.0	601.3	1.3	-1.5	81.8	760.8	646.1	282.8	282.8	18.4	1.000197
15000.0	590.1	0.0	-2.0	86.0	750.1	644.7	282.1	282.1	19.3	1.000194
15500.0	579.2	-1.2	-2.6	90.1	739.5	643.2	280.5	280.5	20.5	1.000191
16000.0	568.4	-2.4	-3.2	94.3	729.1	641.7	278.5	278.5	20.9	1.000187
16500.0	557.7	-3.4	-3.9	96.8	718.3	640.5	276.5	276.5	21.1	1.000184
17000.0	547.1	-4.3	-5.1	94.2	707.0	639.3	274.7	274.7	21.5	1.000179
17500.0	536.6	-5.2	-6.5	90.8	695.9	638.3	272.6	272.6	21.3	1.000175
18000.0	526.4	-5.9	-8.3	83.2	684.6	637.3	270.5	270.5	20.7	1.000170

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL

12 AUG. 68

ASCENSION NO. 640

UPPER AIR DATA

0073003902

WHITE SANDS SITE

WSTM SITE COORDINATES

E 488,580 FEET

N 185,045 FEET

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL.HUM. PERCENT (SEE *)	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
18500.0	516.3	-6.2	-11.0	69.0	672.6	636.8	267.4	19.8	1.000164	
19000.0	506.3	-6.8	-11.9	67.1	661.1	636.0	264.1	18.8	1.000160	
19500.0	496.6	-7.4	-12.9	65.3	649.9	635.3	260.3	17.3	1.000157	
20000.0	486.9	-8.7	-13.4	69.0	640.4	633.7	257.6	16.1	1.000154	
20500.0	477.5	-10.1	-14.0	73.8	631.4	632.0	255.5	15.2	1.000152	
21000.0	468.1	-10.6	-19.4	48.7	620.5	631.3	253.6	15.1	1.000146	
21500.0	459.0	-11.7	-20.7	47.7	611.0	629.9	252.9	15.9	1.000143	
22000.0	449.9	-12.7	-20.8	51.1	601.4	628.7	252.6	16.4	1.000140	
22500.0	441.1	-13.3	-17.9	68.8	590.6	626.1	252.9	16.3	1.000140	
23000.0	432.3	-14.2	-17.7	75.4	580.9	627.0	255.4	15.6	1.000138	
23500.0	423.7	-15.3	-18.6	76.1	571.7	625.7	258.7	14.5	1.000135	
24000.0	415.2	-16.3	-19.6	76.8	562.6	624.4	263.2	12.4	1.000133	
24500.0	406.9	-17.4	-20.5	77.4	553.7	623.1	267.8	11.0	1.000130	
25000.0	398.8	-18.4	-21.5	77.7	544.9	621.7	272.5	10.3	1.000128	
25500.0	390.6	-19.5	-22.8	75.7	535.9	620.5	273.7	9.9	1.000125	
26000.0	382.6	-20.5	-24.1	73.6	527.1	619.2	273.4	9.6	1.000123	
26500.0	374.7	-21.5	-25.4	71.6	518.4	617.9	266.6	9.5	1.000120	
27000.0	367.1	-22.5	-26.7	69.5	509.9	616.7	259.8	9.6	1.000118	
27500.0	359.5	-23.5	-28.0	67.5	501.5	615.4	252.9	10.2	1.000115	
28000.0	352.1	-24.5	-29.3	65.4	493.2	614.1	246.0	10.3	1.000113	
28500.0	344.9	-25.5	-30.6	63.4	485.1	612.9	239.2	9.8	1.000111	
29000.0	337.8	-26.6	-31.9	61.3	477.1	611.6	238.8	9.4	1.000109	
29500.0	330.9	-27.6	-33.2	59.3	469.3	610.3	239.1	9.0	1.000107	
30000.0	323.9	-28.8	-34.5	58.6	461.6	608.8	229.7	7.8	1.000105	
30500.0	316.9	-30.1	-35.8	58.1	454.1	607.2	219.4	7.2	1.000103	
31000.0	310.1	-31.4	-37.1	57.6	446.7	605.6	207.5	7.4	1.000101	
31500.0	303.4	-32.6	-38.4	57.1	439.4	604.0	199.5	8.6	1.000099	
32000.0	296.9	-33.9	-39.7	56.6	432.3	602.4	194.1	10.3	1.000098	
32500.0	290.5	-35.2	-41.0	56.1	425.3	600.7	193.8	11.5	1.000096	
33000.0	284.3	-36.4	-42.3	55.7	418.4	599.1	194.4	12.7	1.000094	

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL
12 AUG. 68 0245 HRS MDT
ASCENSION NO. 640

UPPER AIR DATA
0073003902
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT (SEE *)	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
33500.0	278.2	-37.7	55.2	411.7	597.5	197.5	13.7	1.000093
34000.0	272.2	-39.0	54.7	405.0	595.9	200.6	14.6	1.000091
34500.0	266.4	-40.3	54.2	398.5	594.2	197.0	14.2	1.000089
35000.0	260.6	-41.6	52.9	391.9	592.6	193.2	13.7	1.000088
35500.0	254.8	-42.9	50.9	385.4	590.9	192.6	14.2	1.000086
36000.0	249.0	-44.2	48.0**	378.9	589.2	191.5	14.6	1.000085
36500.0	243.2	-45.5	44.1**	372.3	587.5	186.6	14.3	1.000083
37000.0	237.6	-46.9	40.1**	365.8	585.7	184.2	14.1	1.000082
37500.0	232.1	-48.2	36.2**	359.5	584.0	184.3	14.1	1.000080
38000.0	226.7	-49.6	32.3**	353.3	582.2	184.1	13.1	1.000079
38500.0	221.5	-50.9	28.3**	347.2	580.5	178.1	11.2	1.000077
39000.0	216.3	-52.3	24.4**	341.2	578.7	168.6	9.9	1.000076
39500.0	211.3	-53.6	20.5**	335.3	577.0	156.3	9.2	1.000075
40000.0	206.4	-54.9	16.6**	329.6	575.2	144.1	9.7	1.000073
40500.0	201.6	-56.3	12.6**	323.9	573.4	132.1	11.0	1.000072
41000.0	197.0	-57.6	8.7**	318.4	571.6	127.0	12.5	1.000071
41500.0	192.4	-59.0	4.8**	313.0	569.9	125.6	14.1	1.000070
42000.0	187.9	-60.3	0.8**	307.7	568.1	132.8	14.9	1.000069
42500.0	183.4	-60.9	-0.0	301.2	567.2	141.4	15.6	1.000067
43000.0	179.0	-61.4	-0.0	294.5	566.7	153.7	15.1	1.000066
43500.0	174.7	-61.8	-0.0	287.9	566.1	166.0	14.7	1.000064
44000.0	170.4	-62.2	-0.0	281.5	565.5	179.7	15.9	1.000063
44500.0	166.3	-62.7	-0.0	275.3	564.9	193.5	17.2	1.000061
45000.0	162.3	-63.6	-0.0	269.7	563.7	206.1	17.6	1.000060
45500.0	158.3	-64.7	-0.0	264.6	562.1	218.5	17.9	1.000059
46000.0	154.4	-65.6	-0.0	259.2	560.9	226.2	18.2	1.000058
46500.0	150.5	-66.2	-0.0	253.4	560.2	233.1	18.5	1.000056
47000.0	146.8	-66.7	-0.0	247.7	559.5	239.5	18.0	1.000055
47500.0	143.1	-67.2	-0.0	242.2	558.8	245.9	17.4	1.000054
48000.0	139.6	-67.8	-0.0	236.8	558.0	253.7	16.5	1.000053

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOWTFU*. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL

12 AUG. 68

ASCENSION NO. 640

UPPER AIR DATA

0073003902

WHITE SANDS SITE

WSTM SITE COORDINATES

E 488,580 FEET

N 185,045 FEET

0245 HRS MDT

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
48500.0	136.1	-68.3	0.	-0. **	231.5	557.3		261.7	15.6	1.000052
49000.0	132.7	-68.8	0.	-0. **	226.3	556.6		268.2	14.5	1.000050
49500.0	129.4	-69.4	0.	-0. **	221.3	555.9		274.5	13.5	1.000049
50000.0	126.2	-69.6	0.	-0. **	216.0	555.5		276.0	12.2	1.000048
50500.0	123.0	-69.7	0.	-0. **	210.7	555.4		276.6	10.9	1.000047
51000.0	119.9	-69.8	0.	-0. **	205.5	555.3		270.9	9.9	1.000046
51500.0	116.9	-69.9	0.	-0. **	200.4	555.2		263.8	9.1	1.000045
52000.0	114.0	-69.9	0.	-0. **	195.6	555.1		264.8	9.4	1.000044
52500.0	111.1	-70.0	0.	-0. **	190.6	555.0		269.8	10.3	1.000042
53000.0	108.3	-70.1	0.	-0. **	185.8	554.9		274.8	11.1	1.000041
53500.0	105.6	-71.1	0.	-0. **	182.1	553.5		279.8	11.6	1.000041
54000.0	102.9	-71.4	0.	-0. **	177.7	553.1		284.2	12.0	1.000040
54500.0	100.3	-69.0	0.	-0. **	171.2	556.4		285.8	12.0	1.000038
55000.0	97.8	-67.8	0.	-0. **	166.0	558.0		287.4	11.9	1.000037
55500.0	95.4	-66.9	0.	-0. **	161.2	559.2		285.4	10.8	1.000036
56000.0	93.1	-66.1	0.	-0. **	156.6	560.3		283.2	9.7	1.000035
56500.0	90.8	-65.2	0.	-0. **	152.1	561.5		288.4	8.2	1.000034
57000.0	88.5	-64.4	0.	-0. **	147.7	562.6		295.9	6.7	1.000033
57500.0	86.4	-63.8	0.	-0. **	143.7	563.4		312.9	5.2	1.000032
58000.0	84.2	-63.7	0.	-0. **	140.2	563.5		337.4	3.9	1.000031
58500.0	82.2	-63.6	0.	-0. **	136.7	563.6		2.5	3.2	1.000030
59000.0	80.2	-63.6	0.	-0. **	133.3	563.7		29.2	4.2	1.000030
59500.0	78.2	-63.5	0.	-0. **	130.0	563.8		55.9	5.1	1.000029
60000.0	76.3	-63.4	0.	-0. **	126.8	563.9		79.7	3.9	1.000028
60500.0	74.5	-63.4	0.	-0. **	123.7	564.0		103.3	2.6	1.000028
61000.0	72.7	-63.3	0.	-0. **	120.6	564.1		106.3	2.0	1.000027
61500.0	70.9	-63.2	0.	-0. **	117.7	564.2		87.5	2.1	1.000026
62000.0	69.2	-63.2	0.	-0. **	114.8	564.3		69.5	2.2	1.000026
62500.0	67.5	-63.1	0.	-0. **	111.9	564.4		69.5	2.1	1.000025
63000.0	65.8	-63.0	0.	-0. **	109.2	564.4		69.6	2.0	1.000024

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL
12 AUG. 68
ASCENSION NO. 640

UPPER AIR DATA
0073003902
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT (SEE #)	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	64.2	-62.9	-0. **	106.5	564.5	68.5	3.0	1.000024
64000.0	62.7	-62.9	-0. **	103.8	564.6	66.7	4.5	1.000023
64500.0	61.1	-62.8	-0. **	101.3	564.7	65.3	5.7	1.000023
65000.0	59.7	-61.0	-0. **	98.0	567.1	64.5	6.5	1.000022
65500.0	58.2	-59.0	-0. **	94.8	569.8	68.4	7.2	1.000021
66000.0	56.9	-58.5	-0. **	92.3	570.4	79.3	7.7	1.000021
66500.0	55.5	-58.3	-0. **	90.1	570.7	86.3	8.3	1.000020
67000.0	54.2	-58.1	-0. **	87.8	571.0	85.6	9.1	1.000020
67500.0	52.9	-57.9	-0. **	85.7	571.3	84.9	9.8	1.000019
68000.0	51.7	-57.7	-0. **	83.6	571.5	84.3	10.2	1.000019
68500.0	50.5	-57.5	-0. **	81.6	571.8	83.1	10.6	1.000018
69000.0	49.3	-57.3	-0. **	79.6	572.1	79.7	11.3	1.000018
69500.0	48.1	-57.1	-0. **	77.6	572.4	76.6	11.9	1.000017
70000.0	47.0	-56.9	-0. **	75.7	572.6	78.0	13.2	1.000017
70500.0	45.9	-56.7	-0. **	73.9	572.9	79.4	14.4	1.000016
71000.0	44.8	-56.5	-0. **	72.0	573.2	84.9	14.2	1.000016
71500.0	43.8	-56.3	-0. **	70.3	573.5	90.6	13.8	1.000016
72000.0	42.7	-56.0	-0. **	68.6	573.7	94.6	14.5	1.000015
72500.0	41.7	-55.8	-0. **	66.9	574.0	98.3	15.3	1.000015
73000.0	40.7	-55.6	-0. **	65.2	574.3	100.1	16.0	1.000015
73500.0	39.8	-55.4	-0. **	63.6	574.6	101.0	16.4	1.000014
74000.0	38.8	-55.2	-0. **	62.1	574.8	99.5	16.7	1.000014
74500.0	37.9	-55.0	-0. **	60.6	575.1	95.4	16.9	1.000013
75000.0	37.0	-54.8	-0. **	59.1	575.4	90.8	17.6	1.000013
75500.0	36.2	-54.6	-0. **	57.6	575.6	85.1	19.5	1.000013
76000.0	35.3	-54.4	-0. **	56.2	575.9	79.5	21.5	1.000013
76500.0	34.5	-54.2	-0. **	54.9	576.2	74.3	23.9	1.000012
77000.0	33.7	-54.0	-0. **	53.5	576.5	69.0	26.3	1.000012
77500.0	32.9	-53.7	-0. **	52.2	576.9	70.2	27.8	1.000012
78000.0	32.1	-52.8	-0. **	50.8	577.9	71.4	29.2	1.000011

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 60 PERCENT.

STATION ALTITUDE 3089.0 FEET MSL
12 AUG. 68 0245 HRS MDT
ASCENSION NO. 640

UPPER AIR DATA
0073003902
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT (SEE *)	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
78500.0	31.4	-52.0	0.	-0. **	49.4	579.0		72.9	29.4	1.000011
79000.0	30.7	-51.2	0.	-0. **	48.1	580.1		74.4	29.3	1.000011
79500.0	30.0	-50.4	0.	-0. **	46.9	581.2		75.9	28.8	1.000010
80000.0	29.3	-49.6	0.	-0. **	45.6	582.2		77.4	27.9	1.000010
80500.0	28.6	-48.7	0.	-0. **	44.4	583.3		79.0	26.9	1.000010
81000.0	27.9	-48.0	0.	-0. **	43.2	584.2		80.4	26.7	1.000010
81500.0	27.3	-48.4	0.	-0. **	42.3	583.8		81.9	26.5	1.000009
82000.0	26.7	-48.7	0.	-0. **	41.4	583.3		82.6	26.5	1.000009
82500.0	26.1	-49.1	0.	-0. **	40.5	582.9		82.2	26.7	1.000009
83000.0	25.5	-49.4	0.	-0. **	39.7	582.4		81.7	26.9	1.000009
83500.0	24.9	-49.8	0.	-0. **	38.8	582.0		83.7	27.7	1.000009
84000.0	24.3	-50.1	0.	-0. **	38.0	581.5		86.0	28.6	1.000008
84500.0	23.8	-50.1	0.	-0. **	37.1	581.5		87.8	29.4	1.000008
85000.0	23.2	-49.6	0.	-0. **	36.2	582.1		88.5	30.3	1.000008
85500.0	22.7	-49.2	0.	-0. **	35.3	582.7		89.3	31.1	1.000008
86000.0	22.2	-48.7	0.	-0. **	34.5	583.4		89.7	31.2	1.000008
86500.0	21.7	-48.2	0.	-0. **	33.6	584.0		90.1	31.1	1.000007
87000.0	21.2	-47.8	0.	-0. **	32.8	584.6		90.3	31.0	1.000007
87500.0	20.7	-47.3	0.	-0. **	32.0	585.2		90.4	31.1	1.000007
88000.0	20.3	-46.8	0.	-0. **	31.2	585.8		90.5	31.2	1.000007
88500.0	19.8	-46.3	0.	-0. **	30.4	586.4		91.3	30.9	1.000007
89000.0	19.4	-45.9	0.	-0. **	29.7	587.0		92.4	30.5	1.000007
89500.0	18.9	-45.5	0.	-0. **	28.9	587.5		93.4	30.1	1.000006
90000.0	18.5	-45.3	0.	-0. **	28.3	587.7		93.8	30.2	1.000006
90500.0	18.1	-45.2	0.	-0. **	27.6	587.9		94.1	30.2	1.000006
91000.0	17.7	-45.1	0.	-0. **	27.0	588.1		94.6	29.9	1.000006
91500.0	17.3	-44.9	0.	-0. **	26.4	588.2		95.3	29.3	1.000006
92000.0	16.9	-44.8	0.	-0. **	25.8	588.4		95.9	28.6	1.000006
92500.0	16.5	-44.7	0.	-0. **	25.2	588.6		92.1	28.3	1.000006
93000.0	16.2	-44.5	0.	-0. **	24.6	588.8		87.9	28.0	1.000005

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

UPPER AIR DATA
0073003902
WHITE SANDS SITE

STATION ALTITUDE 3989.0 FEET MSL
12 AUG. 68 0245 MRS MDT
ASCENSION NO. 640

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT (SEE #)	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
93500.0	15.8	-44.4	0.	-0. **	24.1	588.9		86.7	27.8	1.000005
94000.0	15.5	-44.2	0.	-0. **	23.5	589.1		91.2	27.9	1.000005
94500.0	15.1	-44.1	0.	-0. **	23.0	589.3		95.7	27.9	1.000005
95000.0	14.8	-44.0	0.	-0. **	22.5	589.5		98.6	27.6	1.000005
95500.0	14.4	-43.8	0.	-0. **	21.9	589.6		100.9	27.1	1.000005
96000.0	14.1	-43.7	0.	-0. **	21.4	589.8		103.5	26.8	1.000005
96500.0	13.8	-43.6	0.	-0. **	21.0	590.0		107.3	27.2	1.000005
97000.0	13.5	-43.4	0.	-0. **	20.5	590.2		112.1	27.7	1.000005
97500.0	13.2	-43.3	0.	-0. **	20.0	590.3		111.1	26.8	1.000004
98000.0	12.9	-43.2	0.	-0. **	19.6	590.5		108.4	25.4	1.000004
98500.0	12.6	-43.0	0.	-0. **	19.1	590.7		105.9	24.5	1.000004
99000.0	12.3	-42.9	0.	-0. **	18.7	590.9		103.7	24.2	1.000004
99500.0	12.1	-42.7	0.	-0. **	18.3	591.0		101.9	24.0	1.000004
100000.0	11.8	-42.6	0.	-0. **	17.8	591.2		102.8	24.6	1.000004
100500.0	11.5	-42.5	0.	-0. **	17.4	591.4		103.7	25.2	1.000004
101000.0	11.3	-42.3	0.	-0. **	17.0	591.6		98.2	24.7	1.000004
101500.0	11.0	-42.2	0.	-0. **	16.6	591.7		90.6	23.8	1.000004
102000.0	10.8	-42.1	0.	-0. **	16.3	591.9		84.0	24.0	1.000004
102500.0	10.5	-41.9	0.	-0. **	15.9	592.1		78.6	25.9	1.000004
103000.0	10.3	-41.8	0.	-0. **	15.5	592.3		73.1	28.0	1.000003
103500.0	10.1	-41.7	0.	-0. **	15.2	592.4		66.2	32.1	1.000003
104000.0	9.9	-41.2	0.	-0. **	14.8	593.0		59.4	36.3	1.000003
104500.0	9.6	-40.7	0.	-0. **	14.5	593.7		60.7	39.8	1.000003
105000.0	9.4	-40.1	0.	-0. **	14.1	594.4		64.6	43.2	1.000003
105500.0	9.2	-39.5	0.	-0. **	13.8	595.2		68.4	45.4	1.000003
106000.0	9.0	-39.0	0.	-0. **	13.4	595.9		72.1	45.6	1.000003
106500.0	8.8	-38.4	0.	-0. **	13.1	596.6		75.8	45.8	1.000003
107000.0	8.6	-37.8	0.	-0. **	12.8	597.3				1.000003
107500.0	8.5	-37.2	0.	-0. **	12.5	598.1				1.000003
108000.0	8.3	-36.7	0.	-0. **	12.2	598.8				1.000003
108500.0	8.1	-36.1	0.	-0. **	11.9	599.5				1.000003

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL

12 AUG. 68

ASCENSION NO. 640

MANDATORY LEVELS

0073003902

WHITE SANDS SITE

WSTM SITE COORDINATES

E 488,580 FEET

N 185,045 FEET

TABLE VIII

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE (SEE *)		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4980.	20.9	11.3	54.	305.5	3.7
800.0	6700.	19.9	7.4	44.	272.5	10.2
750.0	8513.	15.7	4.6	47.	276.8	15.3
700.0	10420.	11.1	1.4	51.	279.2	16.8
650.0	12435.	6.3	0.1	65.	282.7	15.6
600.0	14572.	1.1	-1.6	82.	282.8	18.5
550.0	16849.	-4.1	-4.8	95.	275.2	21.4
500.0	19303.	-7.2	-12.5	66.	261.6	17.9
450.0	21971.	-12.7	-20.9	51.	252.6	16.4
400.0	24893.	-18.3	-21.3	78.	271.8	10.4
350.0	28124.	-24.8	-29.7	65.	243.8	10.1
300.0	31745.	-33.3	-39.1	57.	196.4	9.6
250.0	35854.	-44.0	-50.6	49.**	192.2	14.6
200.0	40632.	-56.7	-72.9	11.**	127.8	11.6
175.0	43368.	-61.8	0.	-0.**	165.0	14.7
150.0	46469.	-66.2	0.	-0.**	234.1	15.3
125.0	50061.	-69.7	0.	-0.**	276.2	11.7
100.0	54414.	-68.5	0.	-0.**	286.0	11.9
80.0	58873.	-63.6	0.	-0.**	31.3	4.2
70.0	61564.	-63.2	0.	-0.**	78.3	2.1
60.0	64679.	-61.5	0.	-0.**	64.7	6.3
50.0	68441.	-57.4	0.	-0.**	82.0	10.9
40.0	73088.	-55.5	0.	-0.**	100.7	16.3
30.0	79152.	-50.4	0.	-0.**	75.8	28.9
25.0	83080.	-49.7	0.	-0.**	83.3	27.6
20.0	87893.	-46.6	0.	-0.**	90.7	31.1
15.0	94200.	-44.1	0.	-0.**	96.8	27.9
10.0	103174.	-41.6	0.	-0.**	63.7	33.7

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL
12 AUG. 68
ASCENSION NO. 641

SIGNIFICANT LEVEL DATA
C073003903
WHITE SANDS SITE

WSM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

TABLE IX

PRESSURE GEOMETRIC ALTITUDE		TEMPERATURE		REL. HUM.
MILLIBARS	MSL FEET	AIR DEGREE	DEWPOINT CENTIGRADE	
880.4	3989.0	19.5	17.9	90.0
870.0	4326.5	20.3	13.6	65.0
851.0	4955.2	21.6	13.1	58.0
801.0	6676.0	19.4	10.2	55.0
654.0	12279.9	6.2	1.0	69.0
597.0	14712.5	0.	-3.9	75.0
573.0	15791.7	-1.0	-14.2	36.0
554.0	16674.7	-2.0	-16.2	33.0
533.0	17681.6	-3.9	-10.2	62.0
526.0	18024.5	-4.7	-13.6	50.0
506.0	19024.6	-6.7	-10.4	75.0
488.0	19954.1	-7.6	-16.5	49.0
458.0	21568.8	-10.9	-16.8	62.0
430.0	22014.2	-11.2	-21.9	41.0
434.0	22925.1	-13.1	-28.7	26.0
418.0	23862.4	-15.5	-26.4	39.0
400.0	24951.1	-17.8	-20.7	79.0
371.0	26793.4	-20.9	-26.4	62.0
322.0	30186.5	-28.6	-33.1	66.0
302.0	31688.3	-32.0	-38.2	55.0
276.0	33760.4	-37.0	-42.6	57.0
259.0	35198.0	-40.4	-48.3	43.0
254.0	35634.6	-41.5	-49.8	41.0
190.0	41910.2	-56.6	0.	-0. **
181.0	42921.2	-58.0	0.	-0. **
167.0	44577.5	-62.0	0.	-0. **
134.0	48992.9	-68.8	0.	-0. **
126.0	50206.6	-69.2	0.	-0. **
115.0	52016.4	-66.9	0.	-0. **
100.0	54793.7	-68.0	0.	-0. **

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSI

12 AUG. 68

ASCENSION NO. 64.1

SIGNIFICANT LEVEL DATA

0073003903

WHITE SANDS SITE

WSTM SITE COORDINATES

E 480,540 FEET

N 185,045 FEET

TABLE IX (Cont)

PRESSURE MILLIBARS MSL FEET	GEOMETRIC ALTITUDE	TEMPERATURE		REL. HUM. PERCENT (SEE *)
		AIR DEGREES	DEW POINT CENTIGRADE	
99.0	54994.3	-65.2	0.	-0. **
93.0	56245.6	-66.9	0.	-0. **
59.0	65437.5	-61.4	0.	-0. **
53.0	67657.0	-57.0	0.	-0. **
23.0	85478.6	-48.0	0.	-0. **

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FFEET MSL
12 AUG. 68 0615 HRS MDT
ASCENSION NO. 641

UPPER AIR DATA
0073003903
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488,530 FEET
N 185,045 FEET

TABLE X

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT (SEE *)	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
3989.0	880.4	19.5	17.9	90.0	1039.0	669.0	150.0	6.0	1.000322
4000.0	880.1	19.5	17.8	89.2	1038.6	669.1	150.5	6.0	1.000321
4500.0	864.7	20.7	13.5	63.1	1018.5	669.7	172.8	5.0	1.000294
5000.0	849.7	21.5	13.0	57.9	997.9	670.7	195.0	3.9	1.000287
5500.0	834.8	20.9	12.2	57.1	962.9	669.8	217.3	2.9	1.000281
6000.0	820.3	20.3	11.3	56.2	968.1	669.0	240.4	2.1	1.000275
6500.0	806.0	19.6	10.5	55.3	953.5	668.2	271.2	3.8	1.000268
7000.0	791.7	18.6	9.7	55.8	939.9	667.0	286.7	5.1	1.000263
7500.0	777.5	17.5	8.9	57.1	927.0	665.6	283.2	6.1	1.000258
8000.0	763.5	16.3	8.1	58.3	914.2	664.2	280.9	7.4	1.000253
8500.0	749.8	15.1	7.3	59.6	901.7	662.8	279.0	8.8	1.000248
9000.0	736.4	13.9	6.5	60.8	889.3	661.4	278.3	9.5	1.000243
9500.0	723.2	12.7	5.7	62.1	877.1	660.0	278.1	10.6	1.000238
10000.0	710.2	11.6	4.9	63.3	865.1	658.5	279.7	12.6	1.000233
10500.0	697.5	10.4	4.0	64.6	853.3	657.1	280.7	14.7	1.000229
11000.0	685.0	9.2	3.2	65.8	841.7	655.7	280.8	16.6	1.000224
11500.0	672.7	8.0	2.3	67.1	830.2	654.3	281.0	18.1	1.000220
12000.0	660.7	6.9	1.4	68.3	818.9	652.8	281.2	19.3	1.000215
12500.0	648.6	5.6	0.5	69.5	807.6	651.3	279.7	19.7	1.000211
13000.0	636.6	4.4	-0.5	70.8	795.4	649.8	277.8	20.0	1.000207
13500.0	624.8	3.1	-1.5	72.0	785.4	648.2	276.7	20.6	1.000202
14000.0	613.2	1.8	-2.5	73.2	774.5	646.7	275.8	21.1	1.000198
14500.0	601.8	0.5	-3.5	74.5	763.8	645.1	275.5	21.4	1.000194
15000.0	590.5	-0.3	-6.1	64.6	752.1	644.0	275.3	21.7	1.000187
15500.0	579.4	-0.7	-10.8	46.5	739.7	643.2	277.1	21.4	1.000179
16000.0	568.5	-1.2	-14.7	35.3	727.4	642.5	278.9	21.0	1.000172
16500.0	557.7	-1.8	-15.8	33.6	715.2	641.8	281.7	20.1	1.000169
17000.0	547.1	-2.6	-13.7	42.4	703.6	640.9	284.4	19.3	1.000168
17500.0	536.7	-3.6	-10.9	56.8	692.4	639.9	286.6	18.5	1.000168
18000.0	526.5	-4.6	-13.3	50.9	682.1	638.5	284.3	17.7	1.000163

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL
12 AUG. 68 0615 HRS MDT
ASCENSION NO. 641

UPPER AIR DATA
0073003903
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488,180 FEET
N 185,045 FEET

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT (SEE *)	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
18500.0	516.4	-5.7	-11.8	61.9	671.4	637.4	289.4	16.8	1.000163
19000.0	506.5	-6.7	-10.5	74.4	660.8	636.3	271.4	16.0	1.000162
19500.0	496.7	-7.2	-13.3	61.7	649.5	635.6	294.0	15.3	1.000156
20000.0	487.1	-7.7	-16.5	49.4	638.5	634.8	295.4	14.0	1.000151
20500.0	477.6	-8.7	-16.5	53.4	628.5	633.6	296.6	12.6	1.000149
21000.0	468.6	-9.7	-16.6	57.4	618.7	632.4	295.3	11.9	1.000147
21500.0	459.2	-10.8	-16.8	61.4	609.0	631.2	293.4	11.4	1.000145
22000.0	450.3	-11.2	-21.7	41.7	598.3	630.5	289.1	11.1	1.000139
22500.0	441.6	-12.2	-25.3	33.0	589.0	629.2	284.4	10.8	1.000136
23000.0	432.7	-13.3	-28.4	27.0	579.9	627.8	279.6	10.5	1.000132
23500.0	424.1	-14.6	-27.1	34.0	571.1	626.3	274.7	10.3	1.000131
24000.0	415.7	-15.8	-25.3	44.1	562.4	624.9	266.3	10.5	1.000130
24500.0	407.4	-16.8	-22.4	62.4	553.2	623.7	257.5	10.8	1.000129
25000.0	399.2	-17.9	-20.8	78.5	544.3	622.5	248.7	11.5	1.000128
25500.0	391.1	-18.7	-22.3	73.9	535.1	621.4	240.1	12.1	1.000125
26000.0	383.2	-19.6	-23.9	69.3	526.1	620.3	237.3	12.9	1.000122
26500.0	375.5	-20.4	-25.4	64.7	517.2	619.3	234.4	13.5	1.000120
27000.0	367.8	-21.4	-26.8	62.2	508.6	618.1	231.1	13.4	1.000117
27500.0	360.2	-22.5	-27.8	62.8	500.4	616.7	228.2	13.4	1.000115
28000.0	352.8	-23.6	-28.8	63.4	492.3	615.2	226.7	13.7	1.000113
28500.0	345.5	-24.8	-29.8	64.0	484.4	613.8	225.7	13.9	1.000111
29000.0	338.4	-25.9	-30.7	64.6	476.6	612.4	226.4	14.2	1.000109
29500.0	331.4	-27.0	-31.7	65.2	468.9	611.0	228.7	14.3	1.000107
30000.0	324.5	-28.2	-32.7	65.8	461.3	609.6	234.1	14.0	1.000105
30500.0	317.7	-29.3	-34.2	63.7	453.8	608.2	238.1	13.0	1.000103
31000.0	311.0	-30.4	-35.8	60.0	446.3	606.7	240.8	11.2	1.000101
31500.0	304.4	-31.6	-37.5	56.4	438.9	605.3	242.4	9.7	1.000099
32000.0	297.9	-32.8	-38.8	55.3	431.7	603.8	243.1	8.5	1.000098
32500.0	291.5	-34.0	-39.9	55.8	424.8	602.3	239.8	7.3	1.000096
33000.0	285.3	-35.2	-41.0	56.3	417.5	600.8	233.8	5.9	1.000094

* RELATIVE HUMIDITY DOUBTFUL. RAHINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3589.0 FEET MSL
 12 AUG. 68
 ASCENSION NO. 641

UPPER AIR DATA
 0073003903
 WHITE SANDS SITE

WSTM SITE COORDINATES
 E 488,580 FEET
 N 185,045 FEET

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT (SEE *)	DENSITY GM/CUBIC MEYER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
33500.0	279.1	-36.4	-42.0	56.7	410.7	599.2	230.0	6.3	1.000092
34000.0	273.1	-37.6	-43.5	54.7	403.8	597.7	227.3	7.3	1.000091
34500.0	267.1	-38.7	-45.5	49.8	397.0	596.2	216.0	7.5	1.000089
35000.0	261.3	-39.9	-47.5	44.9	390.3	594.7	203.9	7.6	1.000087
35500.0	255.5	-41.2	-49.3	41.6	383.7	593.1	195.9	8.0	1.000086
36000.0	249.7	-42.4	-51.1	38.6**	377.0	591.5	192.2	8.7	1.000084
36500.0	244.0	-43.6	-52.9	35.3**	370.3	590.0	195.5	9.7	1.000083
37000.0	238.5	-44.8	-54.8	32.1**	363.8	588.4	196.2	10.7	1.000081
37500.0	233.0	-46.0	-56.8	28.8**	357.4	586.9	195.5	11.8	1.000080
38000.0	227.7	-47.2	-58.8	25.5**	351.0	585.3	196.6	13.8	1.000078
38500.0	222.5	-48.4	-60.9	22.3**	344.9	583.8	197.0	15.8	1.000077
39000.0	217.4	-49.6	-63.2	19.0**	338.8	582.2	191.9	16.2	1.000076
39500.0	212.4	-50.8	-65.6	15.7**	332.8	580.6	188.0	16.7	1.000074
40000.0	207.6	-52.0	-68.3	12.5**	327.0	579.0	186.8	17.5	1.000073
40500.0	202.8	-53.2	-71.4	9.2**	321.3	577.5	184.9	18.3	1.000072
41000.0	198.2	-54.4	-75.2	5.9**	315.7	575.9	182.4	19.1	1.000070
41500.0	193.6	-55.6	-81.1	2.7**	310.1	574.3	183.4	19.7	1.000069
42000.0	189.2	-56.7	0.	-0. **	304.6	572.8	186.9	20.1	1.000068
42500.0	184.7	-57.4	0.	-0. **	298.3	571.9	191.9	20.3	1.000066
43000.0	180.3	-58.2	0.	-0. **	292.2	570.9	198.2	20.2	1.000065
43500.0	176.0	-59.4	0.	-0. **	286.8	569.3	206.7	19.9	1.000064
44000.0	171.8	-60.6	0.	-0. **	281.5	567.7	216.8	19.4	1.000063
44500.0	167.6	-61.8	0.	-0. **	276.4	566.1	225.3	18.5	1.000062
45000.0	163.5	-62.7	0.	-0. **	270.7	564.9	232.2	17.2	1.000060
45500.0	159.5	-63.4	0.	-0. **	265.0	563.9	239.5	16.0	1.000059
46000.0	155.6	-64.2	0.	-0. **	259.4	562.9	247.8	15.0	1.000058
46500.0	151.7	-65.0	0.	-0. **	253.9	561.8	255.7	14.0	1.000057
47000.0	148.0	-65.7	0.	-0. **	248.6	560.8	261.9	12.9	1.000055
47500.0	144.4	-66.5	0.	-0. **	243.4	559.7	268.2	11.7	1.000054
48000.0	140.8	-67.3	0.	-0. **	238.3	558.7	274.4	11.7	1.000053

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOUBTFUL- RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL
 12 AUG. 68
 ASCENSION NO. 641

UPPER AIR DATA
 0073003903
 WHITE SANDS SITE

WSTM SITE COORDINATES
 E 48R, 580 FEET
 N 185, 045 FEET

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT (SEE #)	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
48500.0	137.3	-68.0	0.	-0. **	233.3	557.7		280.6	11.8	1.000052
49000.0	134.0	-68.8	0.	-0. **	228.4	556.6		283.7	11.6	1.000051
49500.0	130.6	-69.0	0.	-0. **	222.8	556.4		285.3	11.3	1.000050
50000.0	127.3	-69.1	0.	-0. **	217.4	556.2		284.0	10.8	1.000048
50500.0	124.1	-68.8	0.	-0. **	211.7	556.6		280.3	10.1	1.000047
51000.0	121.1	-68.2	0.	-0. **	205.8	557.4		277.7	9.4	1.000046
51500.0	118.0	-67.6	0.	-0. **	200.0	558.3		276.1	8.9	1.000045
52000.0	115.1	-66.2	0.	-0. **	194.4	559.2		278.3	8.9	1.000043
52500.0	112.2	-67.1	0.	-0. **	189.8	558.9		287.1	9.9	1.000042
53000.0	109.4	-67.3	0.	-0. **	185.2	558.7		295.4	11.1	1.000041
53500.0	106.7	-67.5	0.	-0. **	180.8	558.4		301.0	13.1	1.000040
54000.0	104.1	-67.7	0.	-0. **	176.5	558.1		306.6	15.1	1.000039
54500.0	101.5	-67.9	0.	-0. **	172.3	557.9		311.6	15.2	1.000038
55000.0	99.0	-65.2	0.	-0. **	165.8	561.5		316.6	15.0	1.000037
55500.0	96.5	-65.9	0.	-0. **	162.3	560.6		313.9	13.5	1.000036
56000.0	94.1	-66.6	0.	-0. **	158.8	559.7		306.3	11.2	1.000035
56500.0	91.8	-66.7	0.	-0. **	155.0	559.4		298.3	9.0	1.000035
57000.0	89.6	-66.4	0.	-0. **	151.0	559.8		288.6	7.7	1.000034
57500.0	87.4	-66.1	0.	-0. **	147.1	560.2		279.0	6.5	1.000033
58000.0	85.3	-65.9	0.	-0. **	143.3	560.6		261.4	5.8	1.000032
58500.0	83.2	-65.6	0.	-0. **	139.6	561.0		240.1	5.4	1.000031
59000.0	81.1	-65.3	0.	-0. **	136.0	561.4		220.7	5.0	1.000030
59500.0	79.2	-65.0	0.	-0. **	132.5	561.8		210.2	4.9	1.000029
60000.0	77.2	-64.7	0.	-0. **	129.0	562.2		199.7	4.8	1.000029
60500.0	75.3	-64.4	0.	-0. **	125.7	562.6		182.2	4.4	1.000028
61000.0	73.5	-64.1	0.	-0. **	122.5	563.0		161.9	3.8	1.000027
61500.0	71.7	-63.8	0.	-0. **	119.3	563.4		162.7	3.3	1.000027
62000.0	69.9	-63.5	0.	-0. **	116.2	563.9		210.5	2.7	1.000026
62500.0	68.2	-63.2	0.	-0. **	113.2	564.3		259.2	2.1	1.000025
63000.0	66.6	-62.9	0.	-0. **	110.3	564.7		306.1	3.6	1.000025

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL
12 AUG. 68
ASCENSION NO. 641

UPPER AIR DATA
0073003903
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS			
63500.0	64.9	-62.6	0.	-0. **	107.4	565.1	354.0	354.0	5.2	1.000024
64000.0	63.4	-62.3	0.	-0. **	104.7	565.5	21.4	21.4	6.0	1.000023
64500.0	61.8	-62.0	0.	-0. **	102.0	565.9	27.1	27.1	5.8	1.000023
65000.0	60.3	-61.7	0.	-0. **	99.3	566.3	32.9	32.9	5.5	1.000022
65500.0	58.8	-61.3	0.	-0. **	96.7	566.8	45.7	45.7	6.9	1.000022
66000.0	57.4	-60.3	0.	-0. **	94.0	568.1	58.6	58.6	8.3	1.000021
66500.0	56.0	-59.3	0.	-0. **	91.3	569.4	68.0	68.0	8.7	1.000020
67000.0	54.7	-58.3	0.	-0. **	88.7	570.7	73.4	73.4	7.8	1.000020
67500.0	53.4	-57.3	0.	-0. **	86.2	572.1	78.7	78.7	7.0	1.000019
68000.0	52.2	-56.8	0.	-0. **	84.0	572.7	76.1	76.1	8.0	1.000019
68500.0	50.9	-56.6	0.	-0. **	82.0	573.0	72.1	72.1	9.3	1.000018
69000.0	49.8	-56.3	0.	-0. **	80.0	573.4	68.9	68.9	10.7	1.000018
69500.0	48.6	-56.1	0.	-0. **	78.0	573.7	68.6	68.6	12.1	1.000017
70000.0	47.5	-55.8	0.	-0. **	76.1	574.0	68.3	68.3	13.6	1.000017
70500.0	46.4	-55.6	0.	-0. **	74.3	574.4	68.5	68.5	15.3	1.000017
71000.0	45.3	-55.3	0.	-0. **	72.5	574.7	69.1	69.1	17.2	1.000016
71500.0	44.3	-55.1	0.	-0. **	70.7	575.0	69.7	69.7	19.1	1.000016
72000.0	43.2	-54.8	0.	-0. **	69.0	575.4	69.8	69.8	19.6	1.000015
72500.0	42.2	-54.6	0.	-0. **	67.3	575.7	69.8	69.8	20.1	1.000015
73000.0	41.3	-54.3	0.	-0. **	65.7	576.0	69.8	69.8	20.7	1.000015
73500.0	40.3	-54.0	0.	-0. **	64.1	576.4	69.9	69.9	21.5	1.000014
74000.0	39.4	-53.8	0.	-0. **	62.5	576.7	70.0	70.0	22.3	1.000014
74500.0	38.5	-53.5	0.	-0. **	61.0	577.0	68.5	68.5	22.9	1.000014
75000.0	37.6	-53.3	0.	-0. **	59.5	577.4	67.1	67.1	23.5	1.000013
75500.0	36.7	-53.0	0.	-0. **	58.1	577.7	66.8	66.8	23.7	1.000013
76000.0	35.9	-52.8	0.	-0. **	56.7	578.0	67.7	67.7	23.4	1.000013
76500.0	35.0	-52.5	0.	-0. **	55.3	578.3	68.6	68.6	23.0	1.000012
77000.0	34.2	-52.3	0.	-0. **	54.0	578.7	73.7	73.7	22.9	1.000012
77500.0	33.4	-52.0	0.	-0. **	52.7	579.0	78.9	78.9	22.8	1.000012
78000.0	32.6	-51.8	0.	-0. **	51.4	579.3	83.1	83.1	23.1	1.000011

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FFEET MSL

12 AUG. 68

ASCENSION NO. 641

UPPER AIR DATA

0073C03903

WHITE SANDS SITE

WSTM SITE COORDINATES

E 488,580 FEET

N 185,045 FEET

0615 HRS MDT

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
78500.0	31.9	-51.5	0.	-0. **	50.1	579.7		95.9	23.9	1.000011
79000.0	31.2	-51.3	0.	-0. **	48.9	580.0		88.8	24.7	1.000011
79500.0	30.4	-51.0	0.	-0. **	47.7	580.3		91.5	26.4	1.000011
80000.0	29.7	-50.8	0.	-0. **	46.6	580.7		94.1	28.2	1.000010
80500.0	29.0	-50.5	0.	-0. **	45.4	581.0		96.2	29.8	1.000010
81000.0	28.4	-50.3	0.	-0. **	44.3	581.3		94.9	29.7	1.000010
81500.0	27.7	-50.0	0.	-0. **	43.3	581.6		93.7	29.7	1.000010
82000.0	27.1	-49.8	0.	-0. **	42.2	582.0		93.7	29.4	1.000009
82500.0	26.4	-49.5	0.	-0. **	41.2	582.3		95.1	28.9	1.000009
83000.0	25.8	-49.3	0.	-0. **	40.2	582.6		96.4	28.4	1.000009
83500.0	25.2	-49.0	0.	-0. **	39.2	583.0				1.000009
84000.0	24.6	-48.7	0.	-0. **	38.3	583.3				1.000009
84500.0	24.1	-48.5	0.	-0. **	37.3	583.6				1.000008
85000.0	23.5	-48.2	0.	-0. **	36.4	583.9				1.000008

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** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

STATION ALTITUDE 3989.0 FEET MSL
12 AUG. 68 0615 HRS MDT
ASCENSION NO. 641

MANDATORY LEVELS
00730013903
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

TABLE XI

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE (SEE *)		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4987.	21.6	13.0	58.	194.5	4.0
800.0	6709.	19.3	10.2	55.	284.2	4.5
750.0	8519.	15.1	7.4	60.	278.9	8.8
700.0	10425.	10.6	4.2	64.	280.7	14.4
650.0	12437.	5.8	0.6	69.	279.9	19.7
600.0	14569.	0.3	-3.6	75.	275.4	21.5
550.0	16848.	-2.4	-14.7	38.	283.8	19.5
500.0	19311.	-7.0	-12.2	66.	293.1	15.5
450.0	21988.	-11.2	-21.9	41.	289.0	11.0
400.0	24917.	-17.8	-20.7	79.	249.6	11.4
350.0	28159.	-24.1	-29.1	64.	226.1	13.7
300.0	31789.	-32.4	-36.5	55.	242.8	8.9
250.0	35921.	-42.3	-51.0	39.**	192.1	8.6
200.0	40746.	-53.9	-73.5	7.**	183.3	18.8
175.0	43521.	-59.7	0.	-0.**	208.9	19.8
150.0	46637.	-65.3	0.	-0.**	258.7	13.5
125.0	50235.	-69.0	0.	-0.**	281.4	10.3
100.0	54642.	-68.0	0.	-0.**	314.5	15.1
80.0	59083.	-65.1	0.	-0.**	215.5	5.0
70.0	61764.	-63.5	0.	-0.**	205.4	2.8
60.0	64884.	-61.6	0.	-0.**	35.1	5.8
50.0	68643.	-56.4	0.	-0.**	69.2	10.3
40.0	73317.	-54.0	0.	-0.**	69.9	21.6
30.0	79419.	-50.9	0.	-0.**	92.6	27.2
25.0	83371.	-48.9	0.	-0.**		

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

* RELATIVE HUMIDITY DOUBTFUL. RAWINSONDE EQUIPMENT LIMITATIONS. BASE LINE RELATIVE HUMIDITY ABOVE 40 PERCENT.

RELEASE TIME (MDT)		SECOND-STAGE IMPACT DISPLACEMENT IN MILES DUE TO WIND										AZI- MUTH (DEG- REES)	THEORETICAL IMPACT FROM LAUNCHER (IN MILES)				
		15-216 FT				216-4000 FT				4000-69330 FT						TOTAL	
		N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W						
RAWIN - SONDE	PIBAL												RANGE	N-S	E-W		
0245	0355	1.8S	1.1W	8.4S	4.6W	5.9S	2.3E	2.3E	16.1S	3.4W	352.5	64.4	63.9N	8.3W			
0245	0415	6.9S	1.7W	11.8S	4.3W	5.9S	2.3E	2.3E	24.6S	3.7W	351.2	56.1	55.4N	8.6W			
0245	0445	5.9S	2.5E	9.2S	2.2W	5.9S	2.3E	2.3E	21.0S	2.6E	357.8	59.0	59.0N	2.3W			
0245	0500	2.5S	0.3E	7.1S	4.0W	5.9S	2.3E	2.3E	15.5S	1.4W	354.4	64.8	64.5N	6.3W			
0245	0515	2.5S	1.7W	7.9S	4.5W	5.9S	2.3E	2.3E	16.3S	3.9W	352.1	64.3	63.7N	8.8W			
0245	0525	2.1S	0.4W	9.1S	2.9W	5.9S	2.3E	2.3E	17.1S	1.0W	354.6	63.2	62.9N	5.9W			
0245	0535	1.8S	0.3E	8.4S	2.0W	5.9S	2.3E	2.3E	16.1S	0.6E	356.2	64.0	63.9N	4.3W			
0245	0545	1.3S	0.9E	6.9S	0.4W	5.9S	2.3E	2.3E	14.1S	2.8E	358.2	65.9	65.9N	2.1W			
0245	0555	4.0S	3.3E	9.4S	0.6E	5.9S	2.3E	2.3E	19.3S	6.2E	001.2	60.7	60.7N	1.3E			
0615*	0614*	5.7S	2.4E	8.7S	3.0W	5.2S	1.8W	1.8W	19.6S	2.4W	353.1	60.8	60.4N	7.3W			

*Post-Shoot Data

AZI- MUTH (DEG- RKES)	MILES FROM LAUNCHER		
	RANGE	N-S	E-W
LAUNCHER SETTING (ELEVATION 84.3 DEGREES QE)	80.0	80.0N	0.0
NO WIND IMPACT	80.1	80.0N	4.9W
PREDICTED SECOND-STAGE IMPACT	60.0	60.0N	0.0
SECOND-STAGE IMPACT, RADAR TRACK	61.2	59.9N	12.5W
PREDICTED BOOSTER IMPACT	1.3	1.3N	0.2E
ACTUAL BOOSTER IMPACT	N/A	N/A	N/A

TABLE XII. IMPACT PREDICTION DATA
NIKE-HYDAC STV (SR-071)

UNCLASSIFIED

Security Classification

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13. ABSTRACT Meteorological data gathered for the launching of Nike-Hydac STV (SR-071) are presented for the Space and Missile Systems Organization and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.			

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14.

KEY WORDS

LINK A

LINK 8

LINK C

ROLX

WT

ROLE

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NOTE

WT

1. Ballistics
2. Meteorology
3. Wind

UNCLASSIFIED

Security Classification